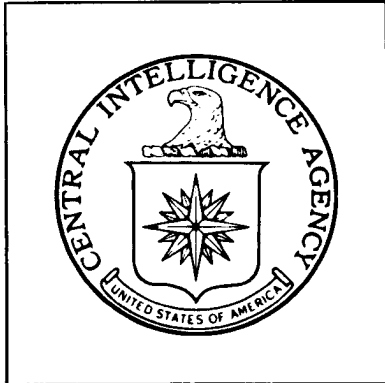


**Top Secret**



**DIRECTORATE OF  
INTELLIGENCE**

**Industrial Facilities  
(Non-Military)**

*Basic Imagery Interpretation Report*

**Refineries and Shale Oil Plants**

**China**

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RCS 13/0046/70  
DATE MAY 1970  
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PAGES 20

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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
Imagery Analysis Service

ABSTRACT

This report updates the previous Basic Imagery Interpretation Reports on ten refineries, two shale oil plants, and a synthetic fuels plant in China. The latest information used in this report ranges from October 1969 to January 1970, depending on the plant.

New refining units are being added to the Ko-la-ma-i and Tu-shan-tzu refineries and to the Chin-chou Synthetic Fuels Plant, which is being modified to process only natural crude oil. Additions of unidentified function are being made to the Lan-chou, Chin-hsi, and Nan-ching refineries. No significant changes have been made to the Leng-hu, Shanghai, Pai-yang-ho, Lu-ta, and Sa-erh-tu refineries or to Fu-shun Shale Oil and Chemical Plant East. Smoke precluded analysis of the facilities at Fu-shun Shale Oil Plant West. All of the above plants were observed in operation at least once since the previous reports.

Due to the lack of coverage since the last reports, updates were not possible on the Nan-chung refinery or the Mao-ming shale oil plant.

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Key to Figure 1

1. Chin-chou Synthetic Fuels Plant.
2. Chin-hsi Petroleum Refinery.
3. Fu-shun Shale Oil and Chemical Plant East.
4. Fu-shun Shale Oil Plant West.
5. Ko-la-ma-i Petroleum Refinery.
6. Lan-chou Petroleum Refinery.
7. Leng-hu Petroleum Refinery and Storage.
8. Lu-ta Petroleum Refinery.
9. Mao-ming Shale Oil Refinery.
10. Nan-ching Petroleum Refinery.
11. Nan-chung Petroleum Refinery.
12. Pai-yang-ho Petroleum Refinery, Yu-men.
13. Sa-erh-tu Petroleum Refinery and Storage.
14. Shanghai Petroleum Refinery, Gough Island Area.
15. Tu-shan-tzu Petroleum Refinery and Storage.

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REFERENCES

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Document

CIA. RCS 13/0278/69, Chin-chou Synthetic Fuels Plant, Chin-chou, China,  
June 1969, TCS 19128/69 (TOP SECRET RUFF)

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INSTALLATION OR ACTIVITY NAME		COUNTRY	
Fu-shun Shale Oil and Chemical Plant East		CH	
UTM COORDINATES	GEOGRAPHIC COORDINATES		25X1
51TWG868318	41-50-01N 124-02-54E		
MAP REFERENCE			
USATC, Series 200, Sheet M0290-11HL, 4th ed, Jan 66, Scale 1:200,000			25X1
(SECRET, [REDACTED])			25X1
LATEST IMAGERY USED		NEGATION DATE (If required)	
[REDACTED]		NA	25X1

## BASIC DESCRIPTION

Since November 1968, the date of the latest photography used in the previous report, the dismantling of the shale oil retort has continued in the shale oil retort area (Area B) at this plant. All of the processing units around the retort appear to have been removed. No additional changes to the facilities were noted. The plant now processes oil recovered from the single remaining shale oil retort in Area C, as well as natural crude oil.

The plant was in operation when observed on the December 1969 photography as indicated by emissions in several of the processing areas.

## REFERENCES

[REDACTED]
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Document

CIA. RCS 13/0280/69, Fu-shun Shale Oil and Chemical Plant East, Fu-shun, China, June 1969, [REDACTED] (TOP SECRET RUFF)

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<b>INSTALLATION OR ACTIVITY NAME</b>		<b>COUNTRY</b>
Fu-shun Shale Oil Plant West		CH
<b>UTM COORDINATES</b>	<b>GEOGRAPHIC COORDINATES</b>	
51TWG725340	41-51-00N 123-52-11E	
<b>MAP REFERENCE</b>		
USATC, Series 200, Sheet M0290-11HL, 4th ed, Jan 66, Scale 1:200,000		
(SECRET, [REDACTED])		
<b>LATEST IMAGERY USED</b>		<b>NEGATION DATE (If required)</b>
[REDACTED]		NA

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#### BASIC DESCRIPTION

Analysis of the facilities at Fu-shun Shale Oil Plant West was precluded by smoke over the plant area on December 1969 imagery, the only coverage since the previous report.

The degree of activity within the plant could not be determined, although emissions from at least two areas of the plant indicated it was in operation.

#### REFERENCES

[REDACTED]
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#### Document

CIA. RCS 13/0279/69, Fu-shun Shale Oil Plant West, Fu-shun, China, June 1969, [REDACTED] (TOP SECRET RUFF)

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<b>INSTALLATION OR ACTIVITY NAME</b>		<b>COUNTRY</b>
Lan-chou Petroleum Refinery		CH
<b>UTM COORDINATES</b>	<b>GEOGRAPHIC COORDINATES</b>	25X1
48SUQ780978	36-06-58N 103-38-16E	
<b>MAP REFERENCE</b>		
15th RTS. USATC, Series 200, Sheet 0383-22HL, 2nd ed, May 64, Scale 1:200,000 (SECRET/Controlled Dissem)		
<b>LATEST IMAGERY USED</b>		<b>NEGATION DATE (If required)</b>
		NA

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**BASIC DESCRIPTION**

Construction has continued at the Lan-chou Petroleum Refinery since August 1968, the date of the latest coverage used in the previous report. Most of the construction has taken place in the unidentified processing areas (Areas A and D). Emissions have been observed coming from Area D on several occasions, but never from Area A. A small light-ends unit has been identified at the east end of the thermal cracking area (Area J), adjacent to the thermal cracking unit. The unidentified processing unit at the south end of the U/I processing area (Area G) has been identified as a possible alkylation unit, based primarily on its location in the refinery and its general appearance on the small-scale photography.

The facilities in the crude oil distillation area (Area M) which were previously identified as primary distillation units are now believed to be phenol extraction units.

The refinery was in operation on all coverage as indicated by emissions from the cooling towers and from various processing units.

**REFERENCES**

25X1

Document

CIA. RCS 13/0195/69, Lan-chou Petroleum Refinery, Lan-chou, China, June 1969,  
(TOP SECRET RUFF)

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<b>INSTALLATION OR ACTIVITY NAME</b>		<b>COUNTRY</b>	
Mao-ming Shale Oil Refinery		CH	
<b>UTM COORDINATES</b>	<b>GEOGRAPHIC COORDINATES</b>		
49QDP875975	21-40-45N 110-52-57E	25X1	
<b>MAP REFERENCE</b>			
ACIC. USATC, Series 200, Sheet M0615-14HL, 3rd ed, Mar 67, Scale 1:200,000			
(SECRET)			
<b>LATEST IMAGERY USED</b>		<b>NEGATION DATE (if required)</b>	
--		NA	

## NOTICE

There has been no photographic coverage of the Mao-ming Shale Oil Refinery since December 1968, the date of the latest photography utilized in the previous report.

## REFERENCE

## Document

CIA. RCS 13/0277/69, Mao-ming Shale Oil Refinery, Mao-ming, China, June 1969,  
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<b>INSTALLATION OR ACTIVITY NAME</b>		<b>COUNTRY</b>	
Nan-ching Petroleum Refinery		CH	
<b>UTM COORDINATES</b>	<b>GEOGRAPHIC COORDINATES</b>		
50SPL806604	32-10-00N 118-54-40E		
<b>MAP REFERENCE</b>			
		USATC Series 200, Sheet 0386-23HL, 3rd ed, Jan 64, Scale 1:200,000 (SECRET)	
<b>LATEST IMAGERY USED</b>		<b>NEGATION DATE (If required)</b>	
		NA	

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### BASIC DESCRIPTION

Since February 1969, the date of the latest imagery used in the previous report, construction has continued at the Nan-ching Petroleum Refinery. In the storage area under construction (Area D), the four storage tanks have been completed and several support buildings have been added. At the south end of Area D two unidentified processing units have been added.

The refinery appeared to be active in October 1969 as indicated by the presence of tankers at the river loading piers.

### REFERENCES

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### Document

CIA. RCS 13/0182/69, Nan-ching Petroleum Refinery, Nan-ching, China, June 1969,  
(TOP SECRET RUFF)

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<b>INSTALLATION OR ACTIVITY NAME</b>		<b>COUNTRY</b>
Nan-chung Petroleum Refinery		CH
<b>UTM COORDINATES</b>	<b>GEOGRAPHIC COORDINATES</b>	25X1
48RXK049100	30-49-10N 106-06-10E	
<b>MAP REFERENCE</b>		
15th RTS. USATC Series 200. Sheet M0495-9HL. 2nd ed. May 65. Scale 1:200,000 (SECRET)		
<b>LATEST IMAGERY USED</b>		<b>NEGATION DATE (If required)</b>
--		NA

## NOTICE

There has been no photographic coverage of the Nan-chung Petroleum Refinery since June 1969, the date of the latest photography in the previous report.

## REFERENCE

## Document

CIA. RCS 13/0181/69, Nan-chung Petroleum Refinery, Nan-chung, China, June 1969,  
(TOP SECRET RUFF)

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<b>INSTALLATION OR ACTIVITY NAME</b>		<b>COUNTRY</b>	
Pai-yang-ho Petroleum Refinery Yu-men		CH	
<b>UTM COORDINATES</b>	<b>GEOGRAPHIC COORDINATES</b>		
47SLQ769095	39-50-10N 097-41-50E		
<b>MAP REFERENCE</b>			
15th RTS. USATC, Series 200, Sheet M0332-2HL, 3rd ed, Aug 68, Scale 1:200,000			
(SECRET)			
<b>LATEST IMAGERY USED</b>		<b>NEGATION DATE (If required)</b>	
		NA	

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**BASIC DESCRIPTION**

No significant changes have been observed in the facilities at the Pai-yang-ho Petroleum Refinery since August 1968, the date of the latest photography used in the previous report. However, four storage tanks and several buildings have been added to the unidentified processing facility under construction in Area B.

The refinery was in operation on photography of December 1969 as indicated by emissions in several processing areas. On photography of September 1968 and May 1969, no emissions were noted in the refinery area.

**REFERENCES**

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Document

CIA. RCS 13/0185/69, Pai-yang-ho Petroleum Refinery, Yu-men, China, June 1969, TOP SECRET RUFF

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<b>INSTALLATION OR ACTIVITY NAME</b>		<b>COUNTRY</b>	
Sa-erh-tu Petroleum Refinery and Storage		CH	
<b>UTM COORDINATES</b>	<b>GEOGRAPHIC COORDINATES</b>		
51TXM614532	46-32-00N 125-06-00E		
<b>MAP REFERENCE</b>			
2nd RTS. USATC, Series 200, Sheet M0283-7HL, 2nd ed, Apr 68, Scale 1:200,000 (SECRET)			
<b>LATEST IMAGERY USED</b>		<b>NEGATION DATE (If required)</b>	
		NA	

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**BASIC DESCRIPTION**

No significant changes have been observed in the facilities at the Sa-erh-tu Petroleum Refinery since November 1968, the date of the latest imagery used in the previous report.

The refinery was in operation when observed on photography of December 1969 as indicated by emissions in several processing areas, and snow melt throughout the plant. No emissions were observed within the refinery area on coverage of May and August 1969.

The unit in Area J which was identified as a probable thermal cracking unit in the previous report is now believed to be a multistage primary distillation unit. The unit in Area I previously identified as a primary distillation unit is now identified as a thermal cracking unit. The unidentified processing unit in Area K has been identified as a multistage primary distillation unit. Area I is now identified as a thermal cracking area and Areas J and K as multistage primary distillation areas.

**REFERENCES**

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Document

CIA. RCS 13/0196/69. Sa-erh-tu Petroleum Refinery and Storage, Sa-erh-tu, China, June 1969, (TOP SECRET RUFF)

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INSTALLATION OR ACTIVITY NAME		COUNTRY	
Shang-hai Petroleum Refinery Gough Island Area		CH	
UTM COORDINATES	GEOGRAPHIC COORDINATES		25X1
51RUE619689	31-20-11N 121-33-17E		
MAP REFERENCE			25X1
		USATC, Series 200, Sheet 0492-2HL, 2nd ed, Aug 64, Scale 1:200,000 (SECRET)	
LATEST IMAGERY USED		NEGATION DATE (If required)	25X1
		NA	

## BASIC DESCRIPTION

No significant changes have been observed in the facilities at the Shanghai Petroleum Refinery since December 1968, the date of the latest photography used in the previous report. However, minor additions have been made to the lubricating oil plant (Area F) and the probable blending and treating plant (Area B).

The refinery was in operation on all the referenced photography as indicated by emissions from the processing areas and the presence of tankers at the river loading facilities.

## REFERENCES

25X1

Document

CIA. RCS 13/0188/69, Shanghai Petroleum Refinery, Gough Island Area, Shanghai, China, June 1969, [ ] (TOP SECRET RUFF)

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